Labels on diagram:
- Mounting bracket
- Expansion bracket
- Power cable
- Signal cable
- Expansion bracket
- Mounting bracket
- To AC outlet
- Plastic clamps

Aspire XL Electrical Specifications

Power Supply

AC Power Supply	
Dedicated 15 Amp circuit	Frequency: 50/60 Hz
Input Voltage: 90VAC to 132VAC	Rated Input: 100Vac / 120Vac / 220-240Vac
	7.6A / 6.1A / 3.3A-3.1A

	+3.3V	+5V	-48V
Mane of Output Terminal	+3.3V	+5V	-48V
Output Voltage	+3.42V	+5.0V	-51.90V
Output Voltage Range	+3.317V - +3.454V (+3.42V-3%+1%)	+4.90V - +5.10V (+5.0V±2%)	-49.84V - -52.94V (-51.90V+2%-4%)
Maximu Load Current	12.0A	10.0A	8.0A
Load Regulation Range	0.0A~12.0A	0.0A~10.0A	0.0A~8.0A
Ripple/Noise	100mV p-p or less	150mV p-p or less	200mV p-p or less
Psophometric Noise	-65dBm or less	-65dBm or less	-65dBm or less
Overvoltage Protection	latched off	latched off	latched off
Overcurrent Protection	latched off	latched off	auto-recovered (after removal of fault)
Capacitive Load	12000 μF	12000 μF	24000 μF

Aspire XL Installation Instructions

To enhance the Aspire system, which previously only supported 256 digital/analog extensions (not including IP and Wireless), the Aspire XL system is now available. The Aspire XL uses a new power supply cabinet, new power supplies, and 32ESIU PCB to provide the ability to support up to 384 digital/analog extensions (TDM/legacy telephones). *The total number of phones (legacy + IP/Aspire Wireless) supported is still 512.*

The Aspire XL uses the same hardware as the existing Aspire M/L system except for the new hardware indicated below.
Prior to updating system software, due to capacity differences, a database file must be made in order to revert to any older version of software. The expanded database file from a 4.x software cannot be used in older software once the new ports are recognized and used by the system. The Aspire XL system can support mixed hardware configurations. With an Aspire XL AC/DC power supply cabinet and DC/DC Converter, the second cabinet can contain up to two Aspire M/L power supplies (P/N 0891000), however some port restrictions apply. Refer to the 32ESIU section below for details.

It is recommended that the 3-cabinet Aspire XL system be floor-mounted. If you choose to wall-mount, make sure the wall can support the weight of the cabinets (55 lbs per system cabinet, 45 lbs for the power supply cabinet). It is recommended that plywood first be installed on the wall where the cabinets will be positioned, allowing for secure anchoring. If rack-mounting all three cabinets, the power supply cabinet must be mounted on a separate bracket due to the bracket weight requirements (150 lbs maximum).

- **Power Supply Set (IP1WW-XLPSU-A(SET) / New power supply) - Kit P/N 0890069**
  This kit includes following.
  - IP1WW-PSADU-A1 (AC/DC Unit for the XL Power Supply) - P/N 0892011
    Two AC/DC Power Supplies maximum per Power Supply Cabinet.

    When two AC/DC Power Supplies are installed, two separate AC cords will each require an AC outlet connection from the bottom Power Supply Cabinet. Use the power cords included with the Aspire system cabinet(s) for connecting the power supplies to the AC outlet. The Aspire system cabinet is no longer directly connected to an AC outlet with the AC/DC Power Supplies installed.

    Install the Power Supply Cabinet as the bottom cabinet of a 3-cabinet system.
  - IP1WW-PSDDU-A1 (DC/DC Unit for the XL Power Supply) - P/N 0892012
    Two DC/DC Converters maximum per system - one in each system cabinet.

    A DC/DC Converter replaces the two power supplies used in the cabinet of the Aspire M/L system (P/N 0891000).

    If an Aspire M/L system is upgraded to an Aspire XL, the exising power supplies will no longer be required as they are replaced by the DC/DC Converter.
  - IP1WW-XLPS Cable for Power (connects the AC/DC Unit and DC/DC Unit) - P/N 0892013
    This cable allows for a power connection from one AC/DC Supply in the bottom cabinet to one DC/DC Converter in the system cabinet.

    Note: The power cord for the system cabinet (located on the back of the cabinet) is no longer required with this cable connection.
  - IP1WW-XLPS Cable for Signal (connects the AC/DC Unit and DC/DC Unit) - P/N 0892010
    This cable allows for a signal connection from one AC/DC Supply in the bottom cabinet to one DC/DC Converter in the system cabinet.

- **Power Supply Cabinet (IP1WW-XLPS Cabinet for the IP1WW-PSADU-A1) - P/N 0890068**
  The IP1WW-XLPSU cabinet can contain a maximum of two AC/DC power supplies (IP1WW-PSADU-A1). This cabinet is to be installed as the bottom cabinet of a 3-cabinet system (the top two cabinets containing the NTCPU, DC/DC Converters, and PCBs).

- **32ESIU PCB (IP1WW-32ESIU-PR2 / 32-Port Digital Station Interface) - P/N 0891058**
  The 32ESIU PCB provides 32 digital extensions which can be used for digital telephones, DSS consoles, 1SLTAD adapters or 2PGDAD adapters. **This card requires system software 4.00 or higher and will work with any version of NTCPU PAL chip - Basic NTCPU PAL (P/N 0891002), Basic NTCPU with Feature Upgrade PAL (P/N 0891039), or the Enhanced NTCPU (P/N 0891038).** The 32ESIU can be installed with a maximum of 12 PCBs per Aspire XL system (8 maximum per cabinet). Only the first 4 ports on each PCB allow the use of the B2 channel. This means that the APR(B2 mode) adapter or 2PGDAD module must be installed on one of these first 4 ports.

  Aspire XL systems can accommodate a maximum of 384 TDM station ports for -48V with two power supplies (P/N 0892011) and two DC/DC Converters (P/N 0892012) installed. The PCBs which require -48V are: ESIU, DSTU, SLIU, DSIU, BRIU, DIOPU, TLIU.

  A multi-cabinet system can use different power supplies (0891000 and 0892011), however, if a cabinet has more than 128 -48 volt ports, the AC/DC power supply and DC/DC converter is required - the Aspire M/L power supply (P/N 0891000) cannot be used. If two AC/DC power supplies and two DC/DC Converters are installed, then a maximum of 384 digital/analog ports (-48V output) are supported.

The 32ESIU can be installed in an Aspire M/L system, however, note the following conditions:

- Up to four 32ESIU cards can be supported in one cabinet without the need to change existing power supplies (P/N 0891000).
- The Aspire M/L system can accommodate 128 ports maximum for -48V with two power supplies (P/N 0891000) in one cabinet. If 4 32ESIU's are used with two Aspire M/L power supplies (P/N 0891000), no other PCB which requires -48V (ESIU, DSTU, SLIU, DSIU, BRIU, DIOPU, TLIU) can be installed in that cabinet.
- Using the 32ESIU PCBs **does not** increase the number of digital/analog ports - the limit remains at 512 (256 analog/digital and 256 IP and Wireless).
- The 32ESIU can be used with any version of the NTCPU/PAL chip.
- The load factor for the 32ESIU is 7.

When installing the 32ESIU PCB, the system will assign the next 32 consecutive ports. Keep this in mind when replacing two 16ESIU PCBs with a 32ESIU PCB. Both 16ESIU slots should be deleted in Program 90-05, otherwise, the system will assign new station ports to the PCB.

For details on installing the 32ESIU, refer to the *Aspire 32ESIU PCB Installation Instructions*, P/N 0893112.

Conditions

- APR(B2 mode) Port Assignment
  With the XL system, the APR port is assigned from 512 in descending order.
- The Aspire XL system can support mixed hardware configurations. With an Aspire XL AC/DC power supply cabinet and DC/DC Converter, the second cabinet can contain up to two Aspire M/L power supplies (P/N 0891000).
- Using the Aspire XL power supplies (P/N 0892011), the station equipment can not exceed a load factor of 600 per power supply. Use the following table to determine the load factor for your cabinet. When the Aspire M/L power supplies (P/N 0891000) are used, follow the load factor information from the Aspire Hardware Manual, P/N 0893100.

Each Station Equipment Item	Load Factor	Number Installed	Total for Cabinet
ADA Adapter	1		
APR Adapter	0	-	-
APA Adapter	1		
CTA Adapter	3		
CTU Adapter	0	-	-
IP Adapter (if powered by the 8SHUBU PCB)	7		
IP Adapter (if locally powered)	0	-	-
2PGDAD	2		
SLT ADP	5		
Aspire Wireless (DECT) Base Station (RFP)	2		
Keyset - Non-IP	1		
Keyset - IP (if powered by the 8SHUBU PCB)	7		
Keyset - IP (if locally powered)	0		
Super Display Keyset	2		
i-Series Keyset	3		
24-Button DLS	1		
110-Button DSS	1		
Analog Telephone	1		
If the total number exceeds 600, the additional adapters should be connected to the second cabinet.			

Programming
The following programs are enhanced for the Aspire XL system. The **bold/italicized** items are the enhanced entries with the 4.xx software.

- **10-03-01 : PCB Setup, ESIU**
  Changed port size from 16 to *32*.
- **10-03-01 : PCB Setup, SLIU**
  Logical Port = 0-*384* (previous limit of 256)
- **10-03-01 : PCB Setup, VMSU**
  Logical Port = 0-*384* (previous limit of 256)
- **10-03-02 : PCB Setup, ESIU**
  Terminal Type 1 (Keyset/DSLT) Logical Port = 0-*384* (previous limit of 256)
  Terminal Type 2 (SLT Adapter) Logical Port = 0-*512* (previous limit of 256)
  Terminal Type 3 and 4 - Not used in U.S. = 0-512
- **10-03-02 : PCB Setup, DIOPU**
  Logical Port = 0-*384* (previous limit of 256)
- **10-03-02 : PCB Setup, BRIU**
  Logical Port = 0-*384* (previous limit of 256)
- **10-03-02 : PCB Setup, PRIU**
  Logical Port = 0-*384* (previous limit of 256)

- **10-03-07 : PCB Setup, ESIU**
  Terminal Type 12 (APR) Logical Port = 193-*512* (previous limit of 256)
- **82-07 : CODEC Filter Setup for Analog Station Ports**
  Changed port size from 256 to *384*.
- **91-06-01 : Aspire Wireless Subscription, New**
  When a user selects 0 (auto port assignment) in Program 91-06-01 to assign an Aspire Wireless port, the system previously had assigned an available port from 257. This is now changed to 385.
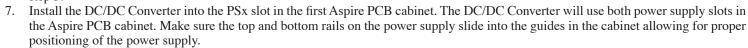
Installation
The Aspire Hardware Manual (P/N 0893100) contains details on mounting the cabinets to the floor. The power supply cabinet is secured to the floor and the top PCB cabinet is secured to the wall using the mounting brackets (see picture on following page).

1. If replacing a power supply, power down the system and then remove the Power Supply Cabinet's AC power cord from the AC receptacle.
2. Remove the four screws attached to the left-hand side of the power supply cabinet.
3. Insert the first AC/DC power supply into the slot on the left-hand side of the power supply cabinet. Make sure the top and bottom rails on the power supply slide into the guides in the cabinet allowing for proper positioning of the power supply.
   Arrows on the back of the power supply indicate where the rails and guide should be aligned.

4. Secure the power supply to the cabinet with four screws removed in step 2.
5. If required, remove the four screws on the right-hand side of the power supply cabinet and insert the second AC/DC power supply.
6. Secure the second power supply to the cabinet with four screws removed in step 5.
7. Install the DC/DC Converter into the PSx slot in the first Aspire PCB cabinet. The DC/DC Converter will use both power supply slots in the Aspire PCB cabinet. Make sure the top and bottom rails on the power supply slide into the guides in the cabinet allowing for proper positioning of the power supply.
   Arrows on the back of the power supply indicate where the rails and guide should be aligned.
   If upgrading an existing Aspire M/L system:
   a. Back up the customer database onto a PC-ATA Flash Card (or CompactFlash with a PCMCIA adapter).
   b. Power down the system.
   c. Remove the existing power supplies.
   d. Install the DC/DC Converter.
   e. Remove the AC power cord from the back of the cabinet.
   Prior to updating system software to 4.xx, due to capacity differences, a database file must be made in order to revert to any older version of software. The expanded database file from a 4.xx software cannot be used in older software once the new ports are recognized and used by the system.
8. Connect the power cable (P/N 0892013) to the first AC/DC power supply. Run the cable through the small opening to the left of the side cable pass-through.
   The side panel must first be removed. Slide the metal plate up and remove it. This allows you to easily slip the cord through the slot. Replace the metal plate.
9. Run the opposite end of the power cable through the small opening to the left of the side cable pass-through in the first Aspire PCB cabinet to the DC/DC Converter. Make sure that each end is locked into the connector.
   The side panel must first be removed. Slide the metal plate up and remove it. This allows you to easily slip the cord through the slot. Replace the metal plate.
10. Using the plastic clamp in the front of the power supply cabinet to secure the power cord to the cabinet.
11. Connect the signal cable (P/N 0892010) to the first AC/DC power supply. The cable is routed on the front of the cabinet, through the shutter of the front panel.
12. Connect the opposite end of the signal cable to the DC/DC Converter in the first Aspire PCB cabinet. Make sure that each end is locked into the connector.
13. Repeat Steps 7-12 and connect the second AC/DC power supply to the second DC/DC Converter, if installed.
14. Install the power cords to each installed AC/DC power supply (use the power cords from the Aspire PCB cabinet removed in Step 6E) and plug the opposite ends into an AC outlet.
    The power connection for the Aspire XL system is made from the AC/DC power supply to the DC/DC Converter - the system cabinet(s) connector is no longer used and no cords should be connected directly to the cabinet. Included wih the Aspire XL power supply cabinet is a warning label which should be placed on the back of the system cabinet, just above the AC connector.
15. To prevent the cables from being caught between the cabinet and cover, make sure any excess cable is placed in the space underneath the power supplies or PCBs (depending on the cabinet).
16. Install required extension and trunk PCBs. Refer to the Aspire Hardware Manual for details.
17. Power up the system by first pressing the power button on the DC/DC Converter in the expansion cabinet, wait 5 seconds, then press the power button on the DC/DC Converter in the main cabinet.
18. Reinstall the cabinet covers.
    When working with a multi-cabinet system, it is easier to first attach the cover for the bottom cabinet and work your up.